

How do Latina/o Parents Interpret and Respond to the US Household Food Security Survey Module? A Qualitative Cognitive Interviewing Study



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ABSTRACT

Background The US Latino/a population disproportionately lives in poverty and experiences household food insecurity, especially households with children. The Household Food Security Survey Module (FSSM) was originally developed among rural White women. Despite wide use in English and Spanish, how well the FSSM captures the food insecurity experiences of Latino/a households is not well known.

Objective This study explored how Latino/a caregivers understood, interpreted, and perceived FSSM items and responses, and how well quantitative FSSM responses captured their reported food insecurity experiences.

Design Trained researchers conducted in-depth cognitive interviews in a qualitative study.

Participants and setting Interviews were conducted between October 2021 and August 2022 with Latino/a adults (N = 62) experiencing food insecurity while caring for a child (aged 18 years or younger) in the same household, and living in California, New York, or Texas.

Statistical analysis performed Qualitative analysis using iterative summaries for data reduction focused on item interpretation, response patterns, and cross-cutting themes.

Results Participants generally understood FSSM items as intended. The most salient findings were themes that applied across multiple FSSM items rather than wording issues with specific items. Underreporting of food insecurity was linked to non-affirmative (“never”) responses to items referencing not having enough money for food while describing reliance on nonmonetary resources (eg, food assistance or food pantries); emotional sensitivity to discussing food insecurity, particularly as it related to children; stigma and emotions related to skipping meals; and limited response options that participants believed did not reflect their experiences. These issues influenced multiple items, impeding ease of responding and leading to inaccurate responses in English- and Spanish-language versions.

Conclusions Assessing coping strategies and providing more acceptable response options could enhance FSSM validity. Considering emic perspectives of Latino/a caregivers and how food access experiences differ from quantitative survey measures of food security could strengthen policy and programs.

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THE HISPANIC OR LATINO/A POPULATION (HEREIN referred to as Latino/a) is the second-largest racial or ethnic group in the United States (18.7% of the population),¹ with the second-fastest growth rate (2.0%).^{2,3} Systemic, structural, and social factors, including poverty, situate Latino/a households at greater risk of food insecurity,^{4,5} and subsequent diet related noncommunicable

disease.^{6,7} Annual prevalence data show persistent racial/ethnic disparities in household food insecurity; Latino/a households with children have relatively high prevalence of food insecurity (18.0% Latino/a [“Hispanic”] vs 7.9% White).⁵

Although the US population continues to diversify with racial/ethnic minority and foreign-born members,⁸ the national tool used to measure food security—the US Household Food Security Survey Module (FSSM)—has stayed relatively constant over 25 years.^{5,9} Because FSSM development and testing was context- and time-bound, it may not fully represent varied experiences of food insecurity reflecting

Statement of Potential Conflict of Interest

See page S45.

social or cultural influences. Scholars have called for cognitive interviewing of the FSSM, including in Latino/a populations,¹⁰ which could reveal alternative phrasing and response options.¹¹

Cognitive interviewing is a qualitative method for assessing how well a quantitative assessment captures underlying experiences of interest by exploring the thought processes of participants interpreting and responding to survey items.^{12,13} This effective and widely used approach gathers evidence about the validity of survey measures.^{14,15} The US Census recently completed cognitive interviewing of the FSSM as part of the Current Population Survey Food Security Supplement and recommended no major changes to the FSSM.¹⁶ Previously, the FSSM was adapted for and found to have good face validity among low-income pregnant Latinas, mostly of Puerto Rican background, in the northeastern United States.¹⁷ Yet, to date, no other cognitive interviewing or validation studies of FSSM items exist among US Latino/a groups or Spanish-speakers. Ensuring the FSSM represents the diversity of US household experiences draws on a rights-based approach to food insecurity,¹⁸ and is critical for accurately measuring and effectively addressing food insecurity. This need was underscored by worsening racial and ethnic inequities in food insecurity during the coronavirus disease 2019 (COVID-19) pandemic.¹⁹ Thus, the present study used cognitive interviewing to explore how well the FSSM captured food insecurity experiences for a diverse sample of US Latino/a caregivers, and how they understood, interpreted, and perceived FSSM items and responses.

METHODS

Study design and approach

This cross-sectional, community-based study employed a qualitative approach, applying existing theoretical frameworks of food insecurity and hunger to guide data collection and analyses.^{18,20–22} In-depth, semistructured remote interviews were conducted with Latino/a parents or caregivers in three US states, drawing on cognitive interviewing techniques to understand perceptions and interpretations of the FSSM measurement items,^{23,24} and how well quantitative responses aligned with qualitative descriptions of their experiences. After institutional review board consideration at each site, the research was deemed exempt at Cornell University and San Diego State University and granted approval at Texas State University. Given challenges of the COVID-19 pandemic, institutional review board applications specified procedures for remote data collection and verbal informed consent.

Setting and sample

Participants lived in urban, suburban, and rural communities of three states—California (CA), New York (NY), and Texas (TX)—and purposeful sampling aimed to reflect variation in geography, population density, and heritage. Eligibility criteria included identifying as Latino/a, being aged 18 years or older and a parent or caregiver to a child aged 18 years or younger (living in same household as the child at least some of the time), speaking English or Spanish, residing fulltime in a study area, and having experience with food insecurity as a parent or caregiver. To include varying levels of food insecurity, individuals were asked to self-report food insecurity

RESEARCH SNAPSHOT

Research Question: How well do Household Food Security Survey Module items reflect the experiences of Latino/a caregivers and how do they understand, interpret, and perceive Household Food Security Survey Module items and responses?

Key Findings: Latino/a caregivers mostly understood and interpreted Household Food Security Survey Module items as they were intended, but several possible threats to validity were identified. Specifically, participation in food assistance programs, the stigma and emotional toll of responding to items, and limited response options that do not reflect experiences may cause underestimation of food insecurity. Including items that capture coping strategies and revising response options to better reflect experiences of feeding a family within limited resources could improve the accuracy of estimating food insecurity levels among Latino/a families.

using the Hunger Vital Sign two-item screener, adapted from the FSSM by Hager and colleagues.²⁵

Researchers contacted community partners by telephone or e-mail to explain the study and request support with recruitment. Partners included Cooperative Extension nutrition programs, federally qualified health centers, food banks/pantries, and local organizations serving Latino/a communities. Recruitment flyers were distributed through email, bulletin boards, online listservs, e-newsletters, social media, and recruitment events at partner sites. Interested participants called, texted, or e-mailed to schedule a brief telephone screening to determine eligibility, based on self-report. Three NY participants were recruited by snowball sampling, excluding family, friends, and housemates. Trained interviewers conducted brief screening calls with 101 individuals; 75 were eligible for participation.

In-depth, semistructured interviews

The research team developed an interview guide in English and Spanish based on the full household version of the FSSM in English and Spanish²⁶ and the investigators' prior research experience with Latino/a parents and caregivers.^{27–29} Cognitive interviewing aimed to assess understanding and interpretation of items, ease of responding, and willingness and ability to answer accurately.¹³ Example cognitive interviewing questions for one FSSM item, child-referenced item 2 (CH2), are provided in Table 1. Participants were encouraged to “think aloud” on how they answered items, share interpretations of key phrases, identify confusing or difficult parts, and suggest ways to improve clarity or acceptability of items and response categories.¹³ Participants were asked about suggested variations for phrases that were problematic in prior research.^{9,17} Interview guides, informed consent, and sociodemographic forms were developed in English and translated into Spanish with iterative rounds of checking and revision. Interviewers were men, women, and nonbinary graduate students, including some who were bilingual and represented diverse Latino/a heritages, and were trained by the primary investigators (A.C.M., C.M.J., and K.L.D.) in qualitative research methods and cognitive interviewing,

Table 1. Example cognitive interviewing questions for the Food Security Survey Module (FSSM)^a child-referenced item 2 (CH2) from the interview guide in *Mejorando la Esperanza en Seguridad Alimentaria* (Improving Hope for Food Security)

Example quantitative item	Response options
FSSM CH2: “(I/We) couldn’t feed (my/our) child/the children) a balanced meal, because (I/we) couldn’t afford that.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?	Often true / Sometimes true / Never true / Don’t know
Key qualitative questions for cognitive interviewing	Possible probes
<u>Interpretation:</u> Please tell me what you are thinking about when answering this question. What does the phrase “often true” (or “sometimes true”) mean to you? How often does “often true” mean for you? When answering this question and thinking about feeding your children, what does the phrase “balanced meal” mean to you?	How did you come to your answer? How would you say it in your own words?
<u>Comprehension:</u> Which parts of this question are difficult to understand or unclear?	What is confusing? How would you change this phrase to make it easier to understand?
<u>Acceptability:</u> How easy was it to answer this question? What, if anything, made it difficult to answer this question?	What, if anything, made it easy?
<u>Suggested Variation:</u> Please tell me what you would prefer instead of saying “balanced meal.” What do you think of the phrase “nutritious meal”: “(I/We) couldn’t feed (my/our) child/the children) a nutritious meal, because (I/we) couldn’t afford that.” Which phrase is better?	Help me understand how you feel about the differences in wording. What wording do you prefer? For what reasons?
<u>Input on overall acceptability of the FSSM (after qualitative probing on all items):</u> What, if anything, about these questions was uncomfortable or might be uncomfortable for others?	What are the reasons?

^aThe FSSM includes items for household, adult, and child-referenced items. The Table presents cognitive interviewing questions and additional probes for only one FSSM item, CH2, to illustrate the qualitative approach used to explore interpretation, comprehension, acceptability, and ease of responding to FSSM items.

followed by role-playing and practice interviews. The primary investigators are women, hold doctorate degrees in nutritional sciences, and collectively have more than 50 years of experience conducting and facilitating qualitative data collection and analyses.

Trained interviewers conducted remote interviews with 62 participants in their preferred language (English or Spanish) and preferred format (video conference or telephone) from October 2021 to August 2022. Thirteen others who had agreed to participate did not complete interviews due to scheduling conflicts or loss to follow-up. Participants gave verbal informed consent and provided responses to socio-demographic survey questions that included self-reported age, gender (open-ended), race (open-ended), Hispanic or Latin heritage, country of birth, and the ages and number of individuals in the household. Participants were asked to provide a pseudonym to preserve anonymity in presentation of quotations from interview data. For 2 participants in Texas, the principal investigator assigned a pseudonym because the participants did not select one.

Interviewers then administered the 18-item FSSM with screener and conducted cognitive interviews, which lasted

about 75 minutes. Initially, cognitive interviewing was conducted immediately after each FSSM item (concurrent probing). However, placement of the child-referenced items at the end of interviews limited the time available for probing due to interviewer and participant fatigue. The team revised the protocol to first administer the full FSSM in the standard order, then conduct cognitive interviewing beginning with the child-referenced items, followed by the household and adult items (retrospective probing). Twenty-five interviews were completed with the original interview guide (3 in California, 14 in New York, and eight in Texas), and 37 interviews with the revised version. Interviewers audiorecorded all interviews and wrote detailed field notes after each interview. Participants received \$30 for their time through cash transfers (eg, Venmo or Zelle) or gift cards.

Data management and analyses

Interview recordings were transcribed verbatim (by Zoom or a professional company) and Spanish-language interview recordings were professionally translated. Transcripts and translations were reviewed for accuracy, comparing transcripts with

audio files and translations to transcripts, and corrected as needed.

Data analysis was concurrent with data collection. The qualitative analyses occurred through an iterative process of summarization for data reduction, and weekly site-level and cross-site discussions to compare and compile salient findings by item and identify patterns across items. Based on the study objective to evaluate the validity of quantitative responses in comparison to more detailed “think-aloud” interview responses, analysis required comparison of qualitative data with quantitative FSSM responses rather than direct coding of raw qualitative data. Data reduction through iterative summarization is recommended for analysis of cross-cultural cognitive interview data,³⁰ and has been used successfully in Spanish-language testing of nutrition questionnaire items.²⁸ Interview data were analyzed systematically by summarizing interviews using a common method and format across all sites. This was a structured summary sheet based on the interview guide, created to capture item-specific findings on interpretation, comprehension, acceptability, wording variations, relevant quotes, and insights by FSSM item from each interview, including alignment of qualitative descriptions with quantitative responses, and notes on patterns and cross-cutting themes (Table 2). This approach enabled researchers to analyze data by consolidating and integrating findings from interview level to site level and, finally, to study level. Two team members completed independent summary sheets for each interview. Site-level summaries of cognitive interviewing results were then compiled, by FSSM item, across all interviews at each site. The frequency of similar responses (eg, whether or not the question was clear or preferences for alternate wording) was considered in the analysis, but frequencies were not analyzed quantitatively. Site-level summaries of cross-cutting themes were also prepared and discussed with each research team, to consider multiple perspectives and assess theoretical saturation by reviewing whether or not new information was emerging.³¹ The site-level summaries were compared, analyzed, and aggregated across sites by the authors, to iteratively compare and identify patterns in item-specific results and themes identified across items.

Instances when participants answered FSSM items as if food secure, but their response contradicted their qualitative description were identified to estimate potential misclassification of food security status. The analysis involved tallying what these participants’ FSSM scores would have been if aligned with reported experiences and assessed whether or not this would have changed participants’ food security status.

Quantitative FSSM and sociodemographic data were double-entered and analyzed descriptively using Excel.³² FSSM scores were computed based on the US Department of Agriculture (USDA) protocol.²³ Missing data were imputed based on USDA guidance.³³

RESULTS

Description of sample

Participants were primarily women, had limited income, and were currently experiencing food insecurity and participating in food and nutrition assistance programs (Table 3). All identified as Hispanic or Latino/a. Most were of Mexican

heritage (66%) and slightly more than half were born outside the US and spoke Spanish at home. Full text of FSSM items and the sample response distributions are in Table 4.

Cognitive Interviewing Results

Cognitive interviewing results indicated potential influence on validity; that is, interpretations differed from the intended meaning such that FSSM responses may have not represented actual food security status. Some of the greatest validity threats were cross-cutting themes that involved multiple items or the overall measurement approach; these broader themes are presented first, followed by examples of item-specific findings on comprehension and interpretation of wording.

Cross-cutting themes

Patterns identified in the data demonstrated reoccurring discrepancies, across multiple items, between quantitative FSSM responses and qualitative discussion of what participants were thinking while answering. The cross-cutting themes reported below indicated that FSSM responses did not always align with actual situations, even when respondents initially stated that FSSM items were clear (Table 5).

Food-secure responses despite reliance on food assistance. Almost all FSSM items refer to having enough money for food, yet some participants responded to FSSM items as if food secure even when unable to buy food (or questioned how to respond), because they accessed sufficient food through federal food assistance programs (eg, Supplemental Nutrition Assistance Program [SNAP] or school meals) and local resources such as food pantries. This issue cut across most items and influenced numerous responses because many participants reported regularly relying on government food assistance and other emergency food programs and had different interpretations of accessing enough food vs having enough money to buy food.

This one, it's more about the money, because many people don't have the money but they have the food. If they can find it. So a lot of people wouldn't understand it (adult-referenced item AD1. [...]) But many people can have the food even if they don't have money and they can't skip the meal. [Mary, NY, Female, low food security (FS), Spanish-language interview (Sp)]

When interpreting items as “can you access enough food,” participants like Francisca tended to answer FSSM items as if food secure, even when relying on food assistance, which was not always secure and available.

If we don't have enough money, there are food banks where they give away food. And there is always enough. [...] Sometimes we don't have enough money and SNAP helps a lot. Because it is a card where they give you everything you want for food. And they are accepted everywhere. [...] I repeat, sometimes we run out of money. And the SNAP program is a very good program, but to qualify it asks for many, many requirements [...] and that is complicated. Yes, it is true that there are food banks, of course there are food banks, but sometimes food banks are only on weekends and one is working and that

Table 2. Analysis form: Excerpts of summary sheet used for interview and site-level summaries of cognitive interviewing data on the Food Security Survey Module (FSSM)^a

Participant ID:

Pseudonym:

Interviewer:

Date of Interview:

Interview Duration:

Mode:

Language:

Cognitive Interviewing of FSSM Questions — Summaries and Key Notes

FSSM question # Question language/text

Example 1: Question: Which of these statements best describes the diet in your household in the last 12 months?
HH1 Enough of all kinds of food we wanted to eat. Enough, but not always all kinds of food we wanted to eat.
Sometimes there is not enough to eat or often not enough to eat?

Response:

Did the participant ask you to repeat or clarify the question?

"Please tell me what you are thinking about when answering this question."

Was this question clear to the participant? If not, which parts were difficult to answer or unclear?

Notes about the participant's interpretations of specific FSSM wording and/or response options.

How easy or difficult was it for the participant to answer this question?

How would the participant change the statement or reword it (suggested alternatives)?

Insights, other notes, quotes, and summary:

Example 2: Question: In the last 12 months, since last (name of current month), did (you/you or other adults in your
AD1 household) ever cut the size of your meals or skip meals because there wasn't enough money for food?

Response:

Did the participant ask you to repeat or clarify the question?

"Please tell me what you are thinking about when answering this question."

Was this question clear to the participant? If not, which parts were difficult to answer or unclear?

"What does 'cut the size of meals' mean to you when answering this question?"

"What does 'skip meals' mean to you?"

How easy or difficult was it for the participant to answer this question?

"Please tell me what you think of these other options instead of 'cut the size of your meals' or 'skip meals:'"

- 'not eat breakfast, lunch, or dinner' because there wasn't enough money for food?"
- 'reduce meal frequency' because there wasn't enough money for food?"
- 'alter meal patterns' because there wasn't enough money for food?"

How would the participant change the statement or reword it (suggested alternatives)?

Insights, other notes, quotes, and summary:

Example 3: Question: "(I/We) relied on only a few kinds of low-cost food to feed (my/our) child/the children) because (I
CH1 was/we were) running out of money to buy food." Was that often, sometimes, or never true for
(you/your household) in the last 12 months?

Response:

"Please tell me what you are thinking about when answering this question."

Was this question clear to the participant? If not, which parts were difficult to answer or unclear?

Notes about the participant's interpretations of specific FSSM wording and/or response options.

"What does 'relied on only a few kinds of low-cost food' mean to you when answering this question?"

"What does 'running out of money to buy food' mean to you when answering this question?"

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Table 2. Analysis form: Excerpts of summary sheet used for interview and site-level summaries of cognitive interviewing data on the Food Security Survey Module (FSSM)^a (continued)

"Please tell me what you think of instead saying: 'less expensive food.' For example, 'I/We relied on only a few kinds of "less expensive food" to feed (our/my) child/the children) because (I was/we were) running out of money to buy food.'"

"What do you think of saying it like this: "(I/We) relied on only a few kinds of "cheap food" to feed (my/our) child/the children) because (I was/we were) running out of money to buy food.'"

Insights, other notes, quotes, and summary:

^aThis form was created for analysis of cognitive interviewing data. The FSSM has three sections with household- (HH), adult- (AD), and child- (CH) referenced items. Figure 2 shows the summary sheet for one example item from each section. A similar structure was used for all FSSM items. During analysis, two researchers independently summarized details of each interview using this form, and interpretations were cross-checked. Similar formats were then used to summarize across all interviews in each site, and then across all three sites.

makes it hard to go to the banks to look for food. [Francisca, NY, Female, very low FS, Sp]

Many participants noted reliance on school food programs for children, affecting multiple responses and highlighting the influence of children not attending school during week-ends, vacations, and/or the COVID-19 pandemic. Participants sometimes answered "never true" or "sometimes true" to child-referenced questions about cutting meal size or quality but made comments such as "Well, she always has breakfast and lunch at school." [Ruby, NY, Female, very low FS, Sp].

Emotional sensitivity to discussion of food insecurity. Participant reactions to FSSM items indicated that stigma, sadness, and distress around discussing difficult times made participants hesitant to admit to food insecurity. Unsurprisingly, many items, especially child-referenced items, elicited strong emotional responses. The resultant difficulty in responding sometimes led to underreporting.

Yes, because, as I say, well at the moment you're having a hard time, well, you don't feel good at all—that you don't have money to—to buy enough food. So, remembering, well, it does lead you to that feeling. What you felt at that moment. [Alicia, CA, Female, very low FS, Sp]

Participants seemed to manage their discomfort by emphasizing that they made sure there is "always something" to eat, especially for children, showing the appropriateness of FSSM items on whether lower quality or less preferred foods were fed to children due to economic constraints, beyond focusing only on quantity. Sometimes parents were more willing to discuss (or took pride in) strategies for stretching or substituting foods to make ends meet. Items addressing food quality and substitution may better capture food insecurity experiences and be less affected by underestimation. However, the above issue of accessing food assistance and emergency food programs persists, because these FSSM items also refer to money and affordability.

Interpretations and responses about reducing meals or skipping meals. Participants' reluctance to affirm food insecurity was further illustrated by items on cutting the size of or skipping meals. Discomfort around reporting skipping meals indicated this phrasing was significantly more stigmatizing than reducing meal size. Participants often emphasized that they did not skip meals but went on to explain how they reduced intake substantially, clearly

compromising responses to item AD1, which asks about cutting size or skipping. Numerous participants answered "no" to AD1 even while describing how they substantially reduced the amount eaten.

No. But the amount of food did go down—I reduced the amount of food. I can tell you that it did happen to me. But never stopped eating. No, no, no. [Leonela, NY, Female, low FS, Sp]

One participant, despite responding "no," described skipping meals, as well as giving some of her meal to her children when they wanted more:

I think the first impression I had when I was answering is more like us sitting down for a meal and them eating and then, 'Oh, I want more of this.' So, then I take it off my plate to give them more. Or I'm like, okay, well you can eat mine. And they're like, really? You're not hungry? I'm like, no. But it's more of like taking the meal out of your mouth to like feed them, which is for me more important. [Ana, CA, Female, very low FS, English language interview (En)]

Items on children skipping a meal or cutting the size of children's meals (CH4) prompted even stronger emotional responses, which could lead to inaccurate answers. Vanessa responded "no" on cutting meal size and said, "Because I never stopped feeding my children" [NY, Female, low FS, Sp], but when probed about the amount, she stated: "I reduced it." Other participants responded "no" to child-specific items on cutting the size of meals or skipping meals but explained that, although eating a second portion was the norm in their households, sometimes there were no seconds, to save food for the next meal. Participants who answered "no" to reducing or skipping meals often filled up on other beverages or foods that clearly reduced food quantity and/or nutritional quality.

Response options that do not fully represent experiences. For multiple items, participants believed the response options were confusing or insufficiently represented their experiences because they did not capture the nuances of their lived experiences. Participants differently interpreted FSSM response options relating to frequency of experiences. Interpretations of "sometimes true" ranged from 3 to 4 times/week to once or twice per year; "often true" ranged from almost every other day to every other month; and "some months but not every month" ranged from 3 months/year to

Table 3. Sociodemographic characteristics of Latino/a parents/caregivers in Mejorando la Esperanza en Seguridad Alimentaria (Improving Hope for Food Security) overall and by site for California (CA), New York (NY), and Texas (TX)

Characteristic	Total (n = 62)	CA (n = 17)	NY (n = 25)	TX (n = 20)
	← n (%) →			
Gender^a				
Female	57 (92)	16 (94)	25 (100)	16 (80)
Male	5 (8)	1 (6)	0 (0)	4 (20)
Educational attainment				
Less than high school/GED ^b	14 (23)	5 (29)	7 (28)	2 (10)
High school/GED or some college	30 (48)	9 (53)	11 (44)	10 (50)
Occupational training, certificate, or college degree	18 (29)	3 (18)	7 (28)	8 (40)
Racial identity^c				
Hispanic/Latino	38 (61)	15 (88)	8 (32)	15 (75)
Black	7 (11)	0 (0)	7 (28)	0 (0)
Indigenous	8 (13)	0 (0)	6 (24)	2 (10)
White	10 (16)	1 (6)	4 (16)	5 (25)
Did not specify racial identity	2 (3)	1 (6)	0 (0)	1 (5)
Hispanic/Latino heritage^d				
Dominican	6 (10)	0 (0)	6 (24)	0 (0)
Ecuadoran	5 (8)	0 (0)	5 (20)	0 (0)
Mexican	41 (66)	17 (100)	5 (20)	19 (95)
Puerto Rican	6 (10)	0 (0)	4 (16)	2 (10)
Other Central/South American	9 (15)	0 (0)	8 (32)	1 (5)
Other	5 (8)	2 (12)	0 (0)	3 (15)
Nativity				
US-born	26 (42)	9 (53)	2 (8)	15 (75)
Foreign-born	36 (58)	8 (47)	23 (92)	5 (25)
Current residence				
Rural or small town	12 (19)	0 (0)	1 (4)	11 (55)
Small city	9 (15)	0 (0)	3 (12)	6 (30)
Large city or suburbs	41 (66)	17 (100)	21 (84)	3 (15)
Language spoken at home				
English	22 (36)	6 (35)	2 (8)	14 (70)
Spanish	34 (55)	11 (65)	20 (80)	3 (15)
Both English and Spanish	6 (10)	0 (0)	3 (12)	3 (15)
Employment status				
Working for pay	27 (43.5)	6 (35.3)	14 (56)	7 (35)
Not working for pay	35 (56.5)	11 (64.7)	11 (44)	13 (65)
Partner's employment status				
Working for pay	33 (53)	9 (53)	15 (60)	9 (45)
Not working for pay	6 (10)	1 (6)	2 (8)	3 (15)
N/A ^e or missing	23 (37)	7 (41)	8 (32)	8 (40)

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Table 3. Sociodemographic characteristics of Latino/a parents/caregivers in Mejorando la Esperanza en Seguridad Alimentaria (Improving Hope for Food Security) overall and by site for California (CA), New York (NY), and Texas (TX) (*continued*)

Characteristic	Total (n = 62)	CA (n = 17)	NY (n = 25)	TX (n = 20)
Program participation				
Free/reduced-price school meals	45 (73)	12 (71)	21 (84)	12 (60)
SNAP ^f	39 (63)	12 (71)	15 (60)	12 (60)
WIC ^g	24 (39)	8 (47)	9 (36)	7 (35)
Community food distribution	41 (66)	14 (82)	14 (56)	13 (65)
Medicaid	43 (69)	13 (77)	19 (76)	11 (55)
Household food security status^g				
High	2 (3)	2 (12)	0 (0)	0 (0)
Marginal	3 (5)	0 (0)	3 (12)	0 (0)
Low	21 (34)	5 (29)	7 (32)	9 (45)
Very low	36 (58)	10 (59)	15 (56)	11 (55)
	← median (range) →			
Age (y)	40 (20-68)	38 (22-68)	41 (28-58)	35 (20-57)
Household size	4 (2-8)	5 (2-8)	5 (2-8)	4 (2-8)
No. of children	2 (1-5)	2 (1-5)	2 (1-5)	2 (1-5)

^fHousehold food security was assessed using the 18-item US Department of Agriculture Household Food Security Module.²³ Missing data points (n = 72) from 13 different participants were imputed according to US Department of Agriculture guidelines. Affirmative response tallies increased for six of those participants, causing two participants' categorical scores to change from "low" to "very low" food security.

^gGender was asked as an open-ended item (What is your gender?)

^hGED = General Educational Development high school equivalency.

ⁱRacial identity was asked as an open-ended item ("What is your race?"). All participants were Hispanic or Latino/a. However, when asked about race, many participants reported Hispanic or Latino/a ethnicity. Columns may not add to 100%, as some participants reported more than one race.

^jHeritage was asked as a closed-ended item, where participants could report multiple heritages and identify an additional heritage as needed. Columns may not add to 100%, as some participants reported more than one heritage.

^kN/A = not applicable.

^lSNAP = Supplemental Nutrition Assistance Program.

^mWIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

every other month. Including nuanced and appropriate response options seemed particularly salient for more severe experiences. When response options did not capture the nuances of their situations, some participants were reluctant to choose any response and others chose options that indicated lower frequency or severity than their qualitative descriptions suggested. Gizmo said an item was clear, but struggled with the response options:

It's more difficult for me to answer it because I can answer it in so many ways, and you need a response, A, B, or C. I could choose each response for us because—we fall sometimes under both, like sometimes often, yes, but sometimes I want to say no... [TX, Female, very low FS, En]

Other items ask for a yes-or-no response (sometimes followed by a second part on frequency). Although some participants preferred this simplicity, others objected to having to choose yes or no when they wanted to tell the story of what happened. Limited response options sometimes led participants to answer "no" when subsequent explanations indicated that they might have answered "occasionally" if that was an option.

I just went for the first thing I thought, but I wasn't sure if there was a specific situation or just in general... Because not everything is black and white with these situations. There is always a gray area, and if they really want people to answer more honestly, I guess, there should be a little wiggle in between. [Ana, CA, Female, very low FS, En]

Misunderstanding of response options also occurred, particularly because double-negative wording (eg, never not having enough) was confusing. For household-referenced item HH4, Jessica [NY, Female, very low FS, Sp] answered "never" to indicate never being able to eat balanced meals, when she should have answered "always" because the item is on frequency of not being able to afford balanced meals.

Item-specific results on comprehension, interpretation, and acceptability

Most participants, whether in English- and Spanish-language interviews, stated that the FSSM items were clear, although some asked for items to be repeated or clarified and probing uncovered misunderstandings. In addition to the cross-cutting themes reported above, some participants had trouble understanding or answering specific items due to

Table 4. Distribution of Household Food Security Survey Module (FSSM)^a responses by item for Latino/a parents/caregivers in Mejorando la Esperanza en Seguridad Alimentaria (Improving Hope for Food Security)^b (n = 62)

Question	Response options	Result n (%)
HH ^c 1: Which of these statements best describes the food eaten in your household in the last 12 months: —enough of the kinds of food (I/we) want to eat; —enough, but not always the kinds of food (I/we) want; —sometimes not enough to eat; or—often not enough to eat?	Enough of the kinds of food we want to eat Enough but not always the kinds of food we want Sometimes not enough to eat Often not enough to eat Missing	7 (11) 37 (60) 13 (21) 3 (5) 1 (2)
HH2: “(I/We) worried whether (my/our) food would run out before (I/we) got money to buy more.” Was that often true, sometimes true, or never true for (you/your household) in the last 12 months?	Often true Sometimes true Never true	14 (23) 38 (61) 10 (16)
HH3: “The food that (I/we) bought just didn’t last, and (I/we) didn’t have money to get more.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?	Often true Sometimes true Never true	12 (19) 38 (61) 12 (19)
HH4: “(I/we) couldn’t afford to eat balanced meals.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?	Often true Sometimes true Never true Don’t know or refused	13 (21) 39 (63) 9 (15) 1 (2)
AD ^d 1: In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn’t enough money for food?	Yes No	38 (61) 24 (39)
AD1a: [IF YES ABOVE, ASK] How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?	Almost every month Some months but not every month Only 1 or 2 months Don’t know or refused N/A	7 (11) 16 (26) 13 (21) 2 (3) 24 (39)
AD2: In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money for food?	Yes No	43 (69) 19 (31)
AD3: In the last 12 months, were you every hungry but didn’t eat because there wasn’t enough money for food?	Yes No Don’t know or refused Missing	23 (37) 37 (60) 1 (2) 1 (2)
AD4: In the last 12 months, did you lose weight because there wasn’t enough money for food?	Yes No Don’t know or refused Missing	15 (24) 45 (73) 1 (2) 1 (2)
AD5: In the last 12 months, did (you/you or other adults in your household) ever not eat for a whole day because there wasn’t enough money for food?	Yes No Missing	14 (23) 46 (74) 2 (3)
AD5a: [IF YES ABOVE, ASK] How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?	Almost every month Some months but not every month Only 1 or 2 months N/A Missing Often true	4 (7) 7 (11) 2 (3) 46 (74) 3 (5) 8 (13)

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Table 4. Distribution of Household Food Security Survey Module (FSSM)^a responses by item for Latino/a parents/caregivers in Mejorando la Esperanza en Seguridad Alimentaria (Improving Hope for Food Security)^b (n = 62) (*continued*)

Question	Response options	Result n (%)
CH ^e 1: "(I/we) relied on only a few kinds of low-cost food to feed (my/our) child/the children) because (I was/we were) running out of money to buy food." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	Sometimes true Never true Missing	42 (68) 6 (10) 6 (10)
CH2: "(I/We) couldn't feed (my/our) child/the children) a balanced meal, because (I/we) couldn't afford that." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	Often true Sometimes true Never true Missing	6 (10) 33 (53) 16 (26) 7 (11)
CH3: "(My/Our child was/The children were) not eating enough because (I/we) just couldn't afford enough food." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	Often true Sometimes true Never true Missing	1 (2) 24 (39) 30 (48) 7 (11)
CH4: In the last 12 months, since (current month) of last year, did you ever cut the size of (your child's/any of the children's) meals because there wasn't enough money for food?	Yes No Missing	20 (32) 35 (57) 7 (11)
CH5: In the last 12 months, did (CHILD'S NAME/any of the children) ever skip meals because there wasn't enough money for food?	Yes No Missing	8 (13) 47 (76) 7 (11)
CH5a: [IF YES ABOVE ASK] How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?	Almost every month Some months but not every month Only 1 or 2 months N/A Missing	1 (2) 4 (7) 3 (5) 47 (76) 7 (11)
CH6: In the last 12 months, (was your child/were the children) ever hungry but you just couldn't afford more food?	Yes No Don't Know or Refused Missing	12 (19) 40 (65) 2 (3) 8 (13)
CH7: In the last 12 months, did (your child/any of the children) ever not eat for a whole day because there wasn't enough money for food?	Yes No Missing	1 (2) 53 (86) 8 (13)

^aFSSM items available at <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/survey-tools/>.

^bData are for Proyecto MESA participants from California, New York, and Texas. Items marked as not applicable (N/A) reflect skip patterns within FSSM. Missing items for child items due to insufficient time in interview.

^cHH = household-referenced items.

^dAD = adult-referenced items.

^eCH = child-referenced items.

length and complexity of wording, awkward or unclear Spanish translations, or lack of specificity or context. Overall, most participant responses indicated interpretation of items as intended. The next paragraphs document the main exceptions to correct interpretation of specific items. Additional examples are included in Table 6.

At the household level, for the initial screener question, HH1 (having enough and the kinds of food a household wants), a few participants spoke about shortages of food on store shelves during the COVID-19 pandemic, an interpretation less directly connected to household food insecurity. Item HH3 (frequency in the past 12 months that food did not

last and did not have money to buy more) elicited responses often based on ability to access food assistance, as discussed under cross-cutting themes. Some participants referred to other issues such as lack of access during the COVID-19 pandemic or to specific foods, and a few participants mentioned that the time frame made it difficult to answer. For item HH4 (not being able to afford to eat "balanced meals" in English-language version or "varied and nutritious meals" ["comida variada y nutritiva"] in Spanish-language version), the English-language version elicited more variable interpretations and some concern that balanced meal may mean different things to different people.

Table 5. Select quotations illustrating key themes identified across multiple Food Security Survey Module (FSSM)³ items and interview responses of Latino/a parents/caregivers in *Mejorando la Esperanza en Seguridad Alimentaria* (Improving Hope for Food Security) (n = 62)^b

Theme	Selected illustrative quotations
Food-secure responses despite reliance on food assistance	<p>HH^c1: "Is there not enough food because we couldn't access it or is there not enough food because we couldn't afford it?" [Clotilde, NY, Female, marginal FS^d, Sp^e, "Enough but not always the kinds of food we want"]</p> <p>HH3: "[When I can't afford enough food] that's when I kind of look for alternatives, you know, like food drives or you know, just kind of like looking for free food or like the summer lunches, you know, that not always they [kids] like to eat either. So just at that point kind of looking for any alternative of food that I can get that's not going to cost me." [Ana, CA, Female, very low FS, En^f, "Sometimes true"]</p> <p>HH3: <i>Interviewer</i>: "Okay. So next statement. 'The food that we bought just didn't last and we didn't have money to get more.' Was that often, sometimes or never true for your household in the last 12 months?"</p> <p><i>Participant</i>: "That we didn't have? No, never. No, definitely not."</p> <p><i>Interviewer</i>: "Thank you. Please tell me what you were thinking about when answering this question."</p> <p><i>Participant</i>: "The resources that I've been able to access you know. I'm very grateful for the food pantry and even my friend has helped me out some. So that's what crossed my mind, like the fact that I've been able to run over to [town name] at least once a month and access food." [Bea, TX, Female, low FS, En, "Never true"]</p> <p>AD^g2: <i>Interviewer</i>: "The question says, 'did you ever eat less than you thought you should because you didn't have money for food?' So that last part—yes, maybe there wasn't enough money. But you didn't stop eating because you had help from the food banks?"</p> <p><i>Participant</i>: "Yes. I don't know how it could be somewhere else, because when I don't have any, I look for a food bank, right? So I don't know what I would put down for that question."</p> <p><i>Interviewer</i>: "This part of the questionnaire is yes or no. But of course, you can tell me what best suits the situation. So—or, you're not sure what answer you'll be able to give? How would you answer it?"</p> <p><i>Participant</i>: "Or then, well, put no." [Rocio, NY, Female, low FS, Sp, "No"]</p> <p>CH^h6: "Well, no, because it says that [...] the money was needed. But then, food [...] I receive—thank God, I receive [...] a lot of help from [food pantries]. And for food maybe they don't give me a lot of meat. Sometimes they do give meat and chicken and all that and fish. Sometimes in other places they don't give that, but there is always [a] little for [the kids] and canned fruits, vegetables, and seeds." [Alma, CA, Female, low FS, Sp, "No"]</p> <p>CH7: <i>Interviewer</i>: "Okay. The first sentence is: 'We had to feed the children or young people in the home with food of little variety and low cost because we ran out of money for food.' In your household, did this happen often, sometimes, or never in the last 12 months?"</p> <p><i>Participant</i>: "Because—that's kind of different, because I work at a school and they provided lunch. So I brought food from school. So that's why I never ran out of food, because I had food. And the children, when they left school, they gave them a bag with food. They gave them hot dogs, they gave them corn dogs, different things. Because that never really happened because they were in school. From school they bring food and I bring food from school. That was."</p> <p><i>Interviewer</i>: "Okay. So, for you this never happened?"</p> <p><i>Participant</i>: "It never happened. Because the school helped me." [Lupita, CA, Female, low FS, Sp, "Never true"]</p>
Emotional sensitivity to discussion of food insecurity	<p>CH1: "Same answer. Again, it's easy. The question is very direct and should require a direct answer, but it's just, again, you have to swallow your pride and be honest and say, hey, this is—this has happened or I have skipped meals because of this or my boyfriend skipped an entire meal</p>

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Table 5. Select quotations illustrating key themes identified across multiple Food Security Survey Module (FSSM)^a items and interview responses of Latino/a parents/caregivers in *Mejorando la Esperanza en Seguridad Alimentaria* (Improving Hope for Food Security) (n = 62)^b (continued)

Theme	Selected illustrative quotations
	because he's more worried about the kids and myself, especially the fact that I'm pregnant." [Lisa, CA, Female, very low FS, En, "Yes"]
	CH3: "Well, because I have always made an effort so that my daughter does not lack anything. I'd rather go hungry than my girl." [Carmen, NY, Female, very low FS, Sp, "Never true"]
	CH4: "You know, many times you don't look at yourself, but you look at your family—that happens to me. I do not know. But I noticed that, that it was reflected in my husband. That if my children said, I want more, I want more. My husband said, no, no more, I don't have any more. So yes, it makes me sad. Because I couldn't—I couldn't fix that situation. I couldn't help them from not having those needs." [Leonela, NY, Female, low FS, Sp, "Yes"]
	CH4: "Am I starving my kids? Does that make me a bad parent? It sucks. Are they getting enough to eat? Is this going to be okay? Is this normal? Do other people do this? Am I the only one?" [Donna, TX, Female, very low FS, En, "Yes"]
	CH4: "I kind of felt uncomfortable. Because sometimes, like sometimes kids think you don't want them to eat. Like they think, maybe, that you don't want to give them food or something. Or that they eat enough, but she doesn't understand that there isn't enough." [Jessica, NY, Female, very low FS, Sp, "No"]
	CH5: [Interviewer prompted to think aloud] "How important it is to feed my kids and my children, even if I don't have money to make sure that they have something. I always make sure they have something... my kid and... not being able to feed him. Like, that's kind of scary." [Mark, TX, Male, very low FS, En, "No"]
	CH5: "...you do understand, but the child does not know. And it's more difficult for children: 'I'm hungry and I can't eat. They don't feed me.' It is difficult for me because I feel sick, but I understand, right? The children do not understand." [Maria, CA, Female, very low FS, Sp, "No"]
	CH5: For myself, it was easy for me to, um, answer, um, but it could be difficult for other people [for their children]. Just going back to the, um, the feeling of someone being a bad parent, they—I mean, no one wants to be seen as a bad parent. So it might be difficult in that aspect for other people." [Sam, TX, Female, low FS, En, "No"]
Interpretations and responses about reducing size of meals or skipping meals	AD1: Basically, I would make a bigger portion for dinner and maybe a little lunch after that. Or I would have to rotate it, or like I said, minimize the amount for maybe breakfast, lunch and dinner, or just do one big meal basically and have that through [the day]." [Wendy, CA, Female, very low FS, En, "No"]
	AD1: "Well, no, but when there wasn't some items... I always had a lot of cereal that they give me, and milk. Well, there's no lack of it, and we keep cereal or something there. We never run out of food. They give me a lot of apples, oranges, pears [...] You don't eat a lot of food anymore, let's say like that, now you fill up with any little thing and even more so if I make smoothies or fresh fruit water too, oat water too" [Alma, CA, Female, low FS, Sp, "No"]
	CH4: <i>Interviewer</i> : "Okay. The next one says: 'in the last 12 months, did you ever reduce the food of the—the amount of food of a child or young person in the household because of lack of money to buy food?' And you said 'no.' Can you tell me, how did you come to have that answer?"
	<i>Participant</i> : "Because I never stopped feeding my children."
	<i>Interviewer</i> : "You didn't have leftovers. But didn't you reduce the food, the amount?"
	<i>Participant</i> : "I reduced it."
	<i>Interviewer</i> : "Okay. You did reduce it, but they didn't stop eating."
	<i>Participant</i> : "No." [Vanessa, NY, Female, low FS, Sp, "No"]
	CH4: <i>Interviewer</i> : "When thinking about feeding your children, what does the phrase cut the size of meals mean."
	<i>Participant</i> : "Am I starving my kids? Does that make me a bad parent? It sucks...Are they getting

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Table 5. Select quotations illustrating key themes identified across multiple Food Security Survey Module (FSSM)^a items and interview responses of Latino/a parents/caregivers in *Mejorando la Esperanza en Seguridad Alimentaria* (Improving Hope for Food Security) (n = 62)^b (continued)

Theme	Selected illustrative quotations
	<p>enough to eat? Is this going to be okay? Is this normal? Do other people do this? Am I the only one?" [Donna, TX, Female, very low FS, En, "Yes"]</p> <p>CH4: "Just thinking about the last several months, and kind of just going off of if we had enough money for everyone to get a full meal every day... Them [children] not being able to get something that they wanted. If we, like, they were able to meet, eat like the main thing, but then if they wanted fruit or something like a dessert afterwards, then they wouldn't be able to get that if we didn't have enough to provide that... I think the children weren't able to eat a full meal because we didn't have enough, I guess." [Sunflower, TX, Female, low FS, En, "No"]</p>
Response options that do not fully represent experiences with managing food insecurity	<p>AD1: "I'm going to be honest. It's because I don't understand it, and it's like... Or I do sometimes, and it's kind of more like they're not being specific, so I'm taking it two ways and that's where I find it difficult. Sometimes I find it so difficult to answer [the] question, so... I'm gonna leave it blank because I don't understand it. I mean it's, it's words that you're using that I'm just, my education didn't get me there." [Gizmo, TX, Female, very low FS, En, "Yes"]</p> <p>AD2: [Responding to FSSM] "Not really, no. Kind of, maybe, sometimes... [Interviewer prompted to select one response option.] I would just say sometimes... Just how I might not eat as much so that other people could eat 'til they were full or satisfied." [Sam, TX, Female, low FS, En, "Yes"]</p> <p>AD1: "It was a little difficult because it was strictly yes or no. And sometimes the answer is not clearly yes or no. Sometimes it could be sometimes." [Jess, NY, Female, very low FS, En, "Yes"]</p> <p>AD1: Well, what do I think about the options that you said just now? Because it depends on how the situation is, right? [...] maybe 1 month you can go the whole month with what you have, maybe another month it's not enough, because the other month you have absolutely nothing. It all depends on how the situation is going, how the situation is developing." [Marina, CA, Female, very low FS, Sp, "Yes"]</p> <p>CH1: "For me it would be sometimes the second option (sometimes true), but most of the time no it is the third option (never true). [Rocio, NY, Female, marginal FS, Sp, "Sometimes true"]</p> <p>CH3: <i>Interviewer:</i> Okay. And would you change the phrase at all, 'the not eating enough,' so that it's easier to understand?</p> <p><i>Participant:</i> Yeah. I would probably put it in that description as 'not eating enough.'</p> <p><i>Interviewer:</i> Okay. Put it in a description for not eating enough?</p> <p><i>Participant:</i> I would put it as in that, what you just said, as opposed to 'often' put 'not eating enough.'</p> <p><i>Interviewer:</i> Okay. You would put that as an answer option?</p> <p><i>Participant:</i> Yeah. Basically. [Wendy, CA, Female, very low FS, En, "Often true"]</p>

^aFSSM items are available at²⁶.

^bData are for Proyecto MESA participants from California (CA), New York (NY), and Texas (TX) who completed cognitive interviews based on the FSSM. Each participant quote is followed by the participant-selected pseudonym, participant's state, participant's gender, participant's household food security status, language of the interview, and participant's response to the item being discussed.

^cHH: household-referenced items.

^dFS = food security.

^eSp = interviewed in Spanish.

^fEn = interviewed in English.

^gAD: adult-referenced items.

^hCH = child referenced items.

For the adult-referenced items AD1 and AD1a (if and how often adults cut size or skipped meals), many participants answered "no" to AD1 even when further discussion revealed that they reduced, substituted, or came very close to skipping a meal. Stigma about skipping meals was discussed as a cross-cutting theme, but the item-specific problem in AD1 is

that it is double-barreled because participants are asked to provide a single response when queried about two behaviors, reducing and skipping. Participants tended to focus on skipping in their responses. A few participants indicated their answers reflected work schedules that disrupted eating patterns or lacking time to eat a meal, rather than lacking money

Table 6. Select quotations illustrating comprehension and interpretation of specific Food Security Survey Module^a items from Latino/a parents/caregivers in Proyecto Mejorando la Esperanza en Seguridad Alimentaria (Improving Hope for Food Security)^b (n = 62)

Comprehension or interpretation issue	Selected illustrative quotations
Double-barreled wording (and prioritizing children)	<p>AD^c1: "It means reducing the amount of food that is going to be served on the plate. Now here is the priority. Giving priority to children and decreasing the amount for adults. But here I am going to tell you something. In my country we prioritize men.... adult men because they work. And they are going to need more food, and the children less. And we give—we serve adults first and then children. In my country. It is [the culture. You will find many who will say that, first we serve—but really in my house I always] serve my children first and then us. Because we do understand that the children come first. But that can happen. Sometimes that happens to us, that I serve my husband first out of habit.... the husband eats, the children eat, and the mother goes without eating." [Leonela, NY, Female, low FS^d, Sp, ^e "No"]</p> <p>AD2: "No. And well, when thinking about that question, sometimes, as mothers, we sacrifice ourselves for our children, sometimes they say "there isn't enough." Or the children who—you cooked less and they are hungry and what you were going to eat you give to them." [Talia, NY, Female, low FS, Sp, "No"]</p> <p>AD2: "This is a... It's a two-part question, and people are going to be like confused about it and they got to sit there and think and stressed, or like, like from their experience, or what they seen, or what they know, or what they lived, to answer that question. So eating less is a two-part question. It's like I said-. It's going to be good and bad, and most people are going to say it's bad guarantee it." [Alex, TX, Male, very low FS, En^f, "Yes"]</p>
Question not reflecting experience of weight changes	<p>AD4: "I feel like it should be reworded maybe a little bit. I just can't think off the top of my head how I would say it differently. Because I feel like losing weight doesn't always—because I feel like not everybody loses weight when they don't eat... Because I go—I'll go days without eating, just drinking water and things. And I still won't lose weight. But yet I'm still hungry." [Donna, TX, Female, very low FS, En, "No"]</p> <p>AD4: "I think a lot of the cheap food tends to be high in sodium and stuff like that. So even though I'm not maybe eating the most balanced meals, it still causes weight gain." [Jessica, TX, Female, low FS, En, "No"]</p> <p>AD4: "No, During the pandemic, because we always went to church and my friend, "Oh, they're going to be giving out food, let's see, let's see what's there." And sometimes it was just sweet things and those girls were very happy that they gave us sweet things. But I said I'm not going to buy that. It's okay." [Lupita, CA, Female, low FS, Sp, "No"]</p> <p>AD4: "So I just think it's kind of like one sided on there, because like for instance if you have like a thyroid problem and even though you're not eating healthy, you may not lose weight, but that doesn't mean you're not hungry, you're not eating properly. I don't know. I just feel like it's kind of biased to one thing, you know what I mean? Like oh, if you're hungry and you don't you eat, that means you lose weight and that is not the case of everybody, I guess." [Ana, CA, Female, very low FS, En, "No"]</p> <p>AD4: "He lost weight. But why did he lose weight? He was affected by not bringing money home. He was affected, also by—it did affect him psychologically. Because he could not replace all the needs in the family. There I would recommend, who gained and who lost weight? Because, really in my case I did not lose or gain weight. My son gained weight. My husband lost weight. So I did see that reflected in my family" [Leonela, NY, Female, low FS, Sp, "No"]</p> <p>AD4: "...if you don't have the availability to buy the right food, you eat anything and everything that is sold to you, which is cheap. It's almost always food that is not healthy and makes you gain weight." [Francisca, NY, Female, very low FS, Sp, "No"]</p> <p>AD4: "A lot of people think you're trying to lose weight and it's not that. It's just that you don't have." [Jessica, CA, Female, very low FS, En, "Yes"]</p>

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Table 6. Select quotations illustrating comprehension and interpretation of specific Food Security Survey Module^a items from Latino/a parents/caregivers in Proyecto Mejorando la Esperanza en Seguridad Alimentaria (Improving Hope for Food Security)^b (n = 62) (*continued*)

Comprehension or interpretation issue	Selected illustrative quotations
Varying interpretations of “hunger”	<p>AD5: “I haven’t had a bite all day. I mean, something solid, you know. Because snacks, one can snack on anything, but to eat something solid, something nutritious and good.” [Ruby, NY, Female, very low FS, Sp, “Yes”]</p> <p>AD5: “I’ve never had that issue. I’ve always had access to food. So I don’t ever recall going starving in the past 12 months.” [Alice, NY, Female, marginal FS, En, “No”]</p> <p>AD5: “want to eat but not have anything to eat”: “...sometimes people eat when they’re bored so they’re looking for something to eat but not necessarily because they’re hungry or because they need to.” [Sam, TX, Female, low FS, En, “No”]</p> <p>AD3: “...when you just don’t have it... you starve... and your stomach growls, and your head hurts, and your stomach hurts.” [Gizmo, TX, Female, very low FS, En, “Yes”]</p> <p>CH⁹7: “Instead of, how many times has your child gone hungry? It could be how many times your child has had nothing to eat in a whole day. Or for many hours. Because many times, many people say, they went hungry. But the boy ate chips, he ate little things. That he had something solid in his stomach. But, if he didn’t eat anything, not even a cookie, that’s the same as hunger.” [Mary, NY, Female, low FS, Sp, “No”]</p>
Always something to eat (especially for children)	<p>HH^h4: “...although we don’t have much variety, but well, we have something to eat, right, even if they [children] don’t have enough options but at least it is something to eat.” [Maria (ID 04-01), CA, Female, very low FS, Sp, “Often”]</p> <p>AD3: “...even if it’s a little one eats. Not so often, but well, one eats, even if it’s something, right? Little, but you eat...you don’t go to bed without eating. You always eat, even if it is just something.” [Maria (ID 03-01), CA, Female, very low FS, Sp, “No”]</p> <p>AD5: <i>Interviewer</i>: “Thank you very much. We will move to the next questions. In the last 12 months, did you or other adults in your household not eat for a whole day because there was not enough money for food?”</p> <p><i>Participant</i>: “No. My children always ate.” [Francisca, NY, Female, very low FS, Sp, “No”]</p> <p>CH2: “I’ve always got something for them to eat. Like I said, my kids [...] they love their chicken, their meat, but...I can always make something out of nothing. And that’s when the beans and the rice and all that come into effect. You feel me?... And they still get the same amount of protein. No, they’re not going to lose weight or nothing like that. They’re fed. They’re fed.” [John Doe, CA, Male, low FS, En, “Never true”]</p>
Awareness of child hunger	<p>CH6: “I don’t know, like I told you, maybe they were hungry, and I don’t know.” [TX, Marla, Female, very low FS, En, “Don’t know”]</p> <p>CH5: “Just how sometimes that, that would be the case for us, where I just couldn’t convince the oldest to actually sit down and eat something, or just a small portion of what’s there for dinner, because he is more concerned with everybody else eating, whether it’s us as adults, or if it’s that his siblings are going to get more food if he doesn’t—if he lies and basically says he’s not hungry at all.” [Lisa, CA, Female, very low FS, En, “Yes”]</p> <p>CH6: “Well, it makes you feel powerless, right? That sometimes they ask you and you can’t give them everything they want, and you have to limit the food.” [Maria, TX, Female, very low FS, Sp, “No”]</p>

hHH = household-referenced items.

^aFSSM items are available at <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/survey-tools/>.

^bData are for Proyecto MESA participants from California (CA), New York (NY), and Texas (TX) who completed cognitive interviews based on the FSSM. Each participant quote is accompanied by the participant-selected pseudonym, participant’s state, participant’s gender, participant’s household food security status, language of interview, and participant’s response to the item being discussed.

^cAD: adult-referenced items.

^dFS = food security.

^eSp: interviewed in Spanish.

^fEn = interviewed in English.

⁹CH = child referenced items.

for food. For AD3 (adults ever hungry but didn't eat) some participants believed the item had an awkward Spanish translation, "pero no comió porque," which made it difficult for them to understand. In discussing this item, participants described *hunger* in a variety of ways: not eating because they lacked money or food, not having anything they wanted to eat, not feeling satisfied or full, or physical sensations (eg, stomach growling). Many participants noted for AD3 (and AD5) that there was always something to eat, even if they responded affirmatively, explaining that they may not have their desired foods but had access to basic ingredients, less expensive foods, or food from pantries or food assistance programs. AD4 (adult lost weight) received mixed responses; participants discussed weight loss in positive (ie, desiring weight loss) and negative ways (ie, insufficient nutrition to maintain body weight). Some reported losing weight because they did not have enough food to eat or were stressed, whereas others reported weight gain or weight fluctuations because of food insecurity, noting connections to not being able to access and afford nutritious foods needed for health. This question was difficult to answer for some, and one participant shared that talking about losing weight felt like the question was "rubbing it in" that there was no food. Several participants disliked the question because it did not account for weight gain due to the combined influence of food insecurity and chronic health conditions. Interpretations of AD5 and AD5a (adults not eating all day) ranged from having snacks throughout the day but no substantial meal to "going starving" [Alice, NY, Female, marginal FS, En]. As noted above, most participants tended to say that there is always something to eat; for example, "even if it's just a salt taco" [Talia, NY, Female, low FS, Sp].

As described under cross-cutting themes, child-referenced items generated responses emphasizing that participants would not let their children go without eating, even if preferred foods were not available. For CH2 (not able to afford balanced meals for children), participant responses on "balanced meal" (or "varied and nutritious meal" in the Spanish-language version) were similar as those for HH4. For CH3 (children not eating enough), most participants talked about prioritizing feeding children before adults, even if the portions were smaller or not preferred foods. Some participants described "not eating enough" from the quality perspective (ie, nutritional content), whereas others said it meant not satisfying children's feelings of hunger.

Now, if they're still hungry, if they eat everything that's on their plate and they're still hungry, for me that's not enough. [Celia, TX, Female, low FS, En]

The remaining child-referenced items target more intense food insecurity experiences, such as cutting size of meals (CH4), skipping meals (CH5), and children ever being hungry (CH6). Many participants indicated these items did not ever apply to their children, emphasizing that they would not allow that to happen. A couple of participants indicated some uncertainty about whether or not their children were ever hungry. For CH7 (children not eating for a whole day), only 1 participant said this had happened in their family and most participants' responses indicated that this situation was inconceivable. "God wouldn't allow that to happen." [Leonela, NY, Female, low FS, Sp]

Influence on classification of food security status

To understand the influence of these findings on categorization of food security status, overall scores were recalculated with FSSM item responses changed to align with participants' qualitative responses. Participants sometimes responded "no" to FSSM items, and then shared stories that contradicted their original response. The food security category for 6 participants (2 in California, 3 in New York, and 1 in Texas) would have changed from "low" to "very low" if scored according to their descriptions. In other words, their direct FSSM answers included at least 1 case in which they gave nonaffirmative response on an indicator of food insecurity, but as they contextualized their response and described their experiences, the qualitative data indicated that a "yes" response (affirming food insecurity) would have been more accurate. Most underestimates occurred when participants responded "no" to an FSSM item referring to lack of money for food but then described reliance on community or government food assistance. Underestimation also occurred when participants responded "no" to item AD1 about reducing or skipping meals, then clearly stated that they reduced amounts, sacrificed size of meals, or rationed food.

DISCUSSION

This study applied cognitive interviewing techniques to elicit rich data exploring the comprehension, interpretation, and perceptions of the FSSM as a measurement tool among US Latino/a caregivers. Relatively few issues surfaced in relation to specific wording of FSSM items, yet important threats to validity were identified in qualitative responses related to having enough money vs accessing food in other ways; emotional sensitivity about reporting food insecurity experiences, particularly stigma related to skipping meals; and limited response options. These themes were identified across multiple items and have broad implications for the measurement of food security using either the English- or Spanish-language versions of the FSSM. The examples most salient to concerns about validity involved discrepancies between participants' qualitative descriptions of food insecurity and their quantitative responses (in the FSSM), which would have resulted in underestimating the total number of affirmative responses and potentially miscategorizing food security status.

A more positive finding, given the importance of the FSSM for monitoring national food security prevalence, was that most items were understood as intended, with few indications that changes to phrasing or translation of individual items would improve comprehension or ability to respond. Hromi-Felder and colleagues¹⁷ documented similar findings among low-income pregnant Latinas. One notable exception for the present multisite study was the inclusion of "ever cut the size of your meals or skip meals" in a single item (AD1). Many participants were willing to acknowledge reducing meal size, but not skipping meals, and provided inaccurate responses to this item. This could be addressed by separating these two concepts, as is done in the child-referenced questions.

The implications of the cross-cutting theme related to how people report accessing food depends on the definition of food security. If food security is defined as being able to

purchase sufficient food, the FSSM may underestimate or misclassify household food insecurity. The only other study published on the validity of the FSSM among Latino/a adults found that pregnant Latinas, mostly of Puerto Rican heritage, understood the phrase *enough money* better than *afford*.¹⁷ Judging by the wording of most FSSM items, the intended definition appears to involve whether one can afford to pay for sufficient food. Yet, many participants answered as if food secure, based on accessing an array of resources other than money, including food and nutrition assistance programs, community-based food programs or emergency food distribution, and social networks of family and friends. Some participants described food management and coping strategies that led them to respond to the FSSM as if they were more food secure than would be the case if categorization was based strictly on ability to purchase enough food.

The USDA has defined food security as: “access by all people (or all members of a household) at all times to enough food for an active, healthy life.”³⁴ USDA qualifies “enough” by stating that food security includes at a minimum: “the ready availability of nutritionally-adequate and safe foods, and assured ability to acquire acceptable foods in socially-acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies).”³⁴ This definition suggests that those who rely on federal food assistance programs are considered food secure, but not those who rely on emergency food programs. In addition, the USDA defines food insecurity as: “limited or uncertain availability of nutritionally-adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially-acceptable ways.”³⁴ Stigma around food assistance, concerns about quality of distributed foods, and requirements for eligibility for food assistance are part of the experience of food insecurity reported by study participants, suggesting that those relying on food pantries or food banks, usually considered emergency food programs, would be considered food insecure; this is even more true for people depending on informal food distribution events or social connections. Although the FSSM qualifying wording about not having enough money is important for specifying a focus on economic factors influencing access to food, it would be advantageous to clarify and align the definition with items that distinguish between being able to purchase food versus access food in other ways. The sampled participants struggled to afford enough food and, thus, relied on an array of strategies. When respondents overlook FSSM item references to affording or having enough money, it can result in underestimation of the number of people who lack financial resources to be food secure, in the absence of food assistance or emergency programs. In addition, when some respondents interpret FSSM items on affording enough food one way and some another, it is as if they are responding to different questions, making the data difficult to interpret and integrate.

One recommendation to address this discrepancy would be to include items that assess food security management and coping strategies, such as participation in federal food and nutrition assistance programs or access to free food from various sources. Alternatively, estimation of household food insecurity could be based on the FSSM plus a supplemental or complementary survey that assesses these strategies. Capturing type and frequency of reliance on food assistance programs and alternative food resources would help align the

FSSM with contextual experiences that participants described in their qualitative responses. In addition, respondents in this and other research tended to be more willing to discuss how they managed food insecurity rather than their experiences with lack of food.³⁵ Thus, capturing management or coping strategies could also ameliorate underreporting due to emotional reactions and stigma. Coping strategies are not assessed by the FSSM, but are included in other measurement tools, often used in international contexts,^{36–38} and may improve assessment of food security status, particularly level of severity.

Consideration should also be given to the scoring protocol, in which categorization of severity is currently based on total number of affirmative items, without indications of duration and with limited options to indicate frequency. These affirmative responses are then collapsed into 2 categories for scoring, which does not consider the defining aspects of food insecurity experiences.³⁹ Participants in our study felt compelled to share information about timing and duration of particular episodes of hardship yet, in scoring, these nuances are lost. Additional response options would capture more detail and help some participants feel more comfortable and confident of their responses. Likewise, more quantifiable response options may better capture accurate estimates of frequency because options such as “sometimes” or “often” had a large range of interpretations. The FSSM items are ordered to reflect a progression in severity of food insecurity, which did not always fit with the experiences of our participants. Some participants responded “yes” to a more severe FSSM item after responding “no” or “never” to earlier items. Under usual administration guidelines, this could mean that some items on more severe experiences would not be asked, again risking underestimation of food insecurity or its severity.

Research has demonstrated that for US Latino/a households, life-course experiences (eg, past food insecurity, country of origin, and immigration status)^{11,27} and cultural norms (eg, self-sufficiency)⁴⁰ uniquely shape food insecurity experiences, management strategies, and interpretation and response to the FSSM.^{41,42} For example, foreign- and US-born Latino/a adults may find the concepts of a “balanced meal”^{17,24,41} or “low-cost foods” confusing or define them in nuanced ways,^{17,24,41} and may perceive item response options to be limited or not representative of their experience.^{11,41} Similar to the present study, low-income pregnant Latinas perceived FSSM items to be repetitive, potentially facilitating imprecise responses, and expressed discomfort regarding the personal nature of the items, indicating the importance of interviewers first establishing rapport with respondents to generate accurate responses.¹⁷ Latino/a households, as well as other US low-income households, may also report that “running out of food” is not an issue because there is “always something to make to eat.”^{29,35} The current study produced similar findings, underscoring the need to consider an expanded measurement approach (ie, beyond economic access), as described by other scholars.⁴³ Whereas the purpose, refinement, and standardization of the FSSM are laudable, using a short tool (to reduce respondent burden) to assess a multidimensional experience like food insecurity in a nationally representative sample of US households remains a challenge. These limitations should be kept in mind when interpreting FSSM data.

Access to safe, nutritious, affordable foods that align with sociocultural preferences has consistently been part of the USDA definition of food security. More recently, the USDA has increased attention around nutrition security, "emphasizing equity" and aiming for access, availability, and affordability to healthy diets for all populations.^{44,45} The USDA defined and prioritized nutrition security,^{44,45} the government released a national strategy with a focus on nutrition security as part of the 2022 White House Conference on Hunger, Nutrition, and Health,⁴⁶ and important articles have been published on the topic.^{47,48} In light of the present study, this emerging discourse related to nutrition security with a focus on equity provides an opportunity to clarify how measurement tools, especially the FSSM, align with definitions. Based on the research presented here, a recommendation would be to intentionally and thoughtfully consider the ways in which, and to what extent, the FSSM already assesses food security, food insecurity, and nutrition security, and use these insights to leverage existing strengths of the FSSM and guide future modification of the FSSM and other instruments.³⁹ Likewise, reflecting on how equity and affordability are included in these definitions and survey items can further inform modifications to ensure that the FSSM accurately assesses food security, food insecurity, and nutrition security in the US population and subgroups, including Latino/a households.

Considerations for potential next steps for research and practice are anchored in the definitions of food security and emerging dialogue related to nutrition security,^{47,48} which are critical to measurement. Differences in qualitative and quantitative responses highlight the need for policymakers to clarify and align conceptual definitions with items in FSSM. Study findings suggest that food security data must be interpreted with awareness of the factors that limit full disclosure of food insecurity experiences in FSSM data, such as the difficulty caregivers face in revisiting and talking about these experiences. Participants' descriptions of the emotional toll and stigma associated with responding to the FSSM, particularly the child-referenced items, underscore the risk of inaccuracy of caregivers' report of their children's food insecurity,^{49,50} including among Latino/a caregivers.⁵¹ Accurate assessment of such a sensitive topic with a short questionnaire may not be achievable. However, efforts to reword items to minimize emotional toll on respondents might help to improve measurement, as could adding management/coping strategies to measurement of food insecurity. Future research should include cognitive interviewing studies with Latino/a and other population subgroups and test the appropriateness of potential variations based on the above recommendations.

This research has several notable strengths, including its expanded measurement approach for food insecurity with a priority population of Latino/a caregivers,^{43,52} based on exploratory and cognitive interviewing. Cognitive interviewing for the FSSM has not been previously conducted in a diverse sample of US Latino/a caregivers, and the multisite sampling strategy reflected diverse heritages (eg, Mexican or Dominican) and contexts (eg, region or rural/urban) of US Latino/a households. The sample size aligned with recommendations for cognitive interviewing,⁵³ and achieved theoretical saturation across sites. The multisite sampling strategy captured diversity in geographic location, education level, as well as heritage. The breadth of the sample

strengthens the trustworthiness of findings. Detailed cognitive interviewing probes enabled us to identify specific aspects of wording or question structure that may influence how participants answer, as well as key themes across items relevant to accuracy of the measurement tool. The diversity of the interviewers was another strength; the team included students with a range of different Latino/a/e heritages and with lived experience of food insecurity.

There were also several limitations. The cognitive interviewing analysis reported here focused on item-specific and cross-cutting themes related to differential interpretation of items that could pose threats to validity. The analysis was not intended to investigate differences by FSSM version (English or Spanish) or heritage of respondents. The salient themes identified in the data set the stage for future research that may pursue these questions. Although the study included parents and caregivers of varied heritage, the sample does not reflect the full heterogeneity within the US Latino/a population. Most recent national data show Mexican, Puerto Rican, Cuban, Salvadoran, and Dominican comprise 61.5%, 9.7%, 3.9%, and 3.9%, respectively, of the Latino/a population.⁵⁴ Future research can provide additional evidence within other population subgroups. In addition, the extensive probing as a part of cognitive interviewing was time-consuming and could be stressful for participants⁵⁵ given strong emotions attached to food insecurity, and respondent fatigue can limit the willingness and ability to fully respond to later questions. A change in protocol to conduct cognitive interviewing, with the child-referenced items first, meant that the data were not collected the same way for all interviews. However, both concurrent and retrospective probing approaches are consistent with recommendations for cognitive interviewing, as is adjustment of interview guides based on preliminary analysis,³⁰ and this flexibility enabled interviewers to elicit rich data across all FSSM items. Lastly, data collection was completed during the COVID-19 pandemic. Although unlikely to have strongly influenced the cognitive processes involved in interpreting FSSM items, occasional mentions in the data of how the pandemic influenced access to food may make results less generalizable to other time periods.

CONCLUSIONS

The historical development of the FSSM as a national tool for surveillance and monitoring has allowed the United States to have uninterrupted time series data on food security over 25 years, and has provided a critical tool for policymakers, researchers, and advocates to use in studies, interventions, and program evaluations.^{9,56,57} Findings from this study highlight strengths and limitations of the FSSM among a group of Latino/a parents and caregivers. Although Latino/a participants tended to state that the wording of most items in Spanish- and English-language versions of the FSSM were clear, comparisons with emic descriptions of their experiences identified several threats to validity or risks of underestimation of food insecurity. To better align the FSSM with conceptual definitions of food security, additional items may be needed to assess reliance on food assistance programs and other coping or food acquisition strategies, including strategies that compromise nutritional adequacy, food safety, cultural values, or dignity. Interpretation of FSSM data could be

enhanced by developing scoring approaches that better capture severity and recognizing that sadness or shame can limit disclosure. Improved measurement to ensure valid data on food insecurity among US Latino/a households is necessary for guiding food and nutrition policies and actions toward achieving equity.

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STATEMENT OF POTENTIAL CONFLICT OF INTEREST

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A. C. McClain, C. M. Johnson, and K. L. Dickin designed the research questions and the study. A. C. McClain, C. M. Johnson, C. DiRado-Owens, and K. L. Dickin analyzed the data and wrote and revised the manuscript. All authors approved the final version of the manuscript, and have access to the data presented in the manuscript.